

Introduction

I hope it's a long list...

Cameron Sinclair

On September 14, 2001, the Architecture for Humanity office phone rang.

I should explain that the "office phone" was actually a cell phone I answered while working as an architectural designer at the firm Gensler in New York City. (A small corner of my cubicle that housed my personal laptop was our "daytime headquarters.") I happened to be working on the relocation of Lehman Brothers after the terrorist attacks on the World Trade Center just a few days before. My colleagues and I were going flat out to help our corporate clients get back on their feet; many of us had watched the towers come down and were committed to doing anything we could.

The woman on the phone said she was calling on behalf of the United Nations High Commissioner for Refugees (UNHCR). She informed me that Architecture for Humanity was on a list of organizations that might be able to help with refugee housing issues if America decided to launch a counterattack against suspected terrorist cells in Afghanistan. I laughed nervously and replied, "I hope it's a long list." Incredibly, the answer was a brief and somber no. It was at that moment I realized that people outside the design profession had developed an interest in our humble undertaking.

Architecture for Humanity is a charitable organization that Kate Stohr, a freelance journalist and documentary producer, and I founded in 1999 to seek architectural solutions to humanitarian crises and bring design services to communities in need. Through competitions, workshops, educational forums, partnerships with aid organizations, and other activities, we have sought to create opportunities for architects and designers from around the world to respond to crises. But at the time of the World Trade Center attack, we had yet to build a single structure. So why would a UN agency reach out to us?

We'd like to think it was because we had already become a voice for humanitarian design—an unexpected touchstone in the movement for socially conscious architecture. The sad truth is that until 1999, when our fledgling organization got started along with a handful of others, there was no easily identifiable design resource for shelter after disaster, and aid groups were often left scrambling for help. Engineers had RedR, an organization now more than 25

years old that connects their profession with frontline humanitarian agencies, but where could agencies and community groups turn when they needed design services? The United States had always had a strong community design movement, but there was no international body engaged in reconstruction and development—for reasons we'd all too soon discover.

Architecture for Humanity began in response to the conflict in Kosovo. I had moved from London to New York and was working at a small design firm as an associate designer, the fancy title for a computer-aided designer, better known inside the profession as a CAD monkey. The firm I worked for was developing international retail stores for American fashion and fragrance firms. After my twentieth project in as many countries, I found myself designing lipstick dispensers for a store in a place where the average weekly salary was equal to the cost of a single lipstick. This experience highlighted the ways in which globalization benefited our profession, enabling designers to work almost anywhere in the world. The real question was whether we now also had an obligation to respond to some of the social concerns in areas where we worked. During informal discussions in the office about the role of the architect, I found myself a lone voice. I also found myself changing firms.

I moved to Lauster & Radu Architects, which turned out to be an incredibly supportive environment. They had an international focus and had taken on a number of socially conscious projects. I was extremely fortunate to work on the restoration of Constantin



Architecture for Humanity Office... 1999-2002 [Office Cubicle] New York, NY

Average number of volunteers... 1
Maximum number of volunteers... 2
Area... 4 sq. ft.
Distance to nearest coffee... 50 ft.
Average # coffees per day... 3
Average workday... 10 hours



Architecture for Humanity

Brancusi's sculptural complex in Tirgu Jiu, Romania, as well as a subsequent 30-year revitalization plan for the town. In New York the firm was working on a number of projects for unions, including a health facility for garment workers of the Union of Needletrades, Industrial and Textile Employees (UNITE). For the first time in my career I also found a mentor in one of the partners: Charles "Chuck" Lauster, whose practice of architecture was as much about ethics as aesthetics.

At about this time I happened to see a film by Dan Reed called *The Valley*, which depicted the ethnic Albanian uprising in Kosovo during the fall of 1998. In villages divided along ethnic lines, Serbs and ethnic Albanians were systematically destroying each other's homes. Over time Serb forces adopted a scorched-earth approach. It became apparent that not only families but also the history of a people was being eradicated. Soon after, the international community intervened to end the conflict. But even as aid organizations focused on the plight of refugees fleeing the country, a second disaster awaited Kosovo's residents when they returned. With their homes in ruins and the region's infrastructure collapsed, these displaced families would need immediate and highly dispersed temporary housing. When I suggested responding to Kosovo's potential housing crisis, Chuck supported the idea and even got involved.

I began researching refugee issues. As the United Nations headquarters was in New York, I phoned them up. To my surprise this led to an invitation to meet with representatives of the UNHCR. Who knew it was that easy! At the meeting Chuck and I were surprised by the UNCHR representatives' positive response. However, they noted that the UNHCR only dealt with refugees located outside their sovereign countries and not people who were internally displaced or returning to damaged or destroyed homes. They suggested we contact a number of nongovernmental organizations (NGOs) that were already working on the Kosovo border and would probably be responding inside the province once the conflict ended. I started making calls and eventually spoke with Heather Harding LaGarde of War Child USA.

She connected us with a number of relief workers in the field, as well as refugees living in some of the camps. It soon became clear that what was needed was not temporary shelter but some sort of medium-term or transitional structure that returning Kosovars could live in while they rebuilt their homes. These conversations left us with a clearer understanding of the needs of those on the ground—and a sense that we were out of our depth.

A phone call with Bob Ivy, the editor-in-chief of *Architectural Record*, brought this point home. Bob, playing devil's advocate, questioned whether one design team (based in New York with little experience in refugee resettlement) could actually make a difference. Maybe one design team couldn't make a difference, I thought, but what if hundreds of architects and designers got involved?

After talking with Bob, we rethought our approach and instead of working on a solution ourselves decided to launch a competition to design transitional housing for the returning refugees. We hoped the competition, which we planned to host online due to our limited budget (i.e., we had no money), would raise awareness and funds for War Child's work. Heather, Chuck, and I rushed to research the problem and create useful criteria, often relying on the help and ideas of complete strangers in far-flung parts of the globe, many of them camped in refugee tents in Montenegro and Albania. We also somehow talked Ray Gastil into lending us gallery space to host the jury and an exhibition. At the time Ray was the executive director of the Van Alen Institute in New York, a nonprofit dedicated to improving design in the public realm.

What happened next was a blur. One day Chuck and I were talking about the impending housing crisis in Kosovo; a few weeks later we were sitting with Heather and Bianca Jagger at the Van Alen Institute about to launch an international design competition in front of a room full of press, having designed the poster for the competition only two hours before. And less than two months later we were sitting in our office surrounded by competition entry boards.

More than 220 design teams from 30 countries responded to our call for entries. Their schemes ranged from the pragmatic to the provocative. Designers proposed structures made from everything from rubble to inflatable hemp (see "Rubble House" and "Low-Tech Balloon System"). Unfortunately, the competition also provoked a negative response. During the entry period we received a number of death threats. One in particular mentioned that we might receive a package from Yugoslavia and that opening it might cause the recipient to lose a few limbs.

A week later a package arrived from Belgrade. (I suggested to Chuck that he open it.)

To our great relief and surprise it turned out to be an entry from three young Serb designers, Katarina Mrkonjic, Uros Radosavljevic, and Dmitrovic Zoran. Inside was a letter stating, "It is not us but our leaders who are doing this. We are not at war with these people, we want to help." We later learned that the team was working on the project at night and volunteering during the day for Otpur, the student-led organization that would later play a key role in overthrowing the Serb president Slobodan Milosevic. The competition had crossed geographical boundaries—and political ones, too.

From the entries the jury selected 10 finalists and 20 honorable mentions to be highlighted in the exhibition. After a successful run at the Van Alen, the show traveled to London and Paris; three of the entries were selected for the 2000 Venice Biennale.

The project, including the exhibition, cost us less than \$700 to host. But by charging a small entry fee, we raised more than \$5,000. Interest generated by the exhibition and an appeal in the UK's *Guardian* newspaper helped raise another \$100,000. Buoyed by the

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We learned a lot realized that I wasn't architects and desig- Second, it became - to implementing a p- negotiating red tape. something built. Most get anything done, we control of them.

This is not to say that designers who entered initiative and built fur- Deborah Gans and Matt Johnnie Walker "Keep "Extreme Housing"); a- the Cooper Hewitt Nat- had first designed his P- in his native Japan, used competition to respond to "Paper Log Houses").

In the middle of the K- and while Tod Williams and jury, we were in South Afr- honeymoon was over. S- station using the pay phone Kate had started reporting South Africa, which at the rape in the world. I had con- look at the severe housing the next few weeks we d- crisis centers, and new ho- access to clean water and a- highest priority; in fact, their

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fact that we had not only several feasible designs but also funding,
we tried to negotiate building a number of housing units in Kosovo.

It would be our first confrontation with the brutal realities of
providing international aid. In order to get building materials through
customs, secure a site, get work permits, and facilitate other aspects
of a housing program, we needed approval from the interim Kosovo
government. However, the interim government, which was seeking
aid from the international community, wanted 20,000 homes or
none at all. We could build fewer than a dozen. War Child negotiated
with local officials to no avail; the project ground to a halt. Short of
building the structures in Albania and smuggling them across the
border by helicopter—a possibility we briefly considered—we could
find no way to get the shelters to those who needed them. In the end
War Child used the funds to provide immediate aid to the returning
refugees and later to rebuild schools and medical facilities.

We learned a lot during the project. First and foremost, we
realized that I wasn't the only disillusioned CAD monkey and that
architects and designers really did want to make a difference.
Second, it became clear that creating partnerships was essential
to implementing a project, as was on-the-ground support for
negotiating red tape. We needed more than a great idea to get
something built. Most important, we learned that if we wanted to
get anything done, we'd not only have to raise funds but also retain
control of them.

This is not to say that the competition ended in ideas only. Many
designers who entered pursued their projects further on their own
initiative and built functioning transitional housing prototypes.
Deborah Gans and Matt Jelacic were awarded \$100,000 from the
Johnnie Walker "Keep Walking" Fund to develop their design [see
"Extreme Housing"]; a prototype by Sean Godsell was exhibited at
the Cooper Hewitt National Design Museum; and Shigeru Ban, who
had first designed his Paper Log House to respond to an earthquake
in his native Japan, used the improved design he entered into our
competition to respond to an earthquake in Turkey in 1999 [see
"Paper Log Houses"].

In the middle of the Kosovo competition Kate and I got married,
and while Tod Williams and Steven Holl were duking it out on the
jury, we were in South Africa. Within three days, however, our
honeymoon was over. Suddenly we were sitting outside a BP gas
station using the pay phone to organize interviews and site visits.
Kate had started reporting a story on violence against women in
South Africa, which at the time was home to the highest incidence of
rape in the world. I had connected with a number of organizations to
look at the severe housing needs in the country. Over the course of
the next few weeks we darted between settlements, hospitals, rape
crisis centers, and new housing projects. Our assumption was that
access to clean water and adequate housing would be the residents'
highest priority; in fact, their biggest concern was health care and



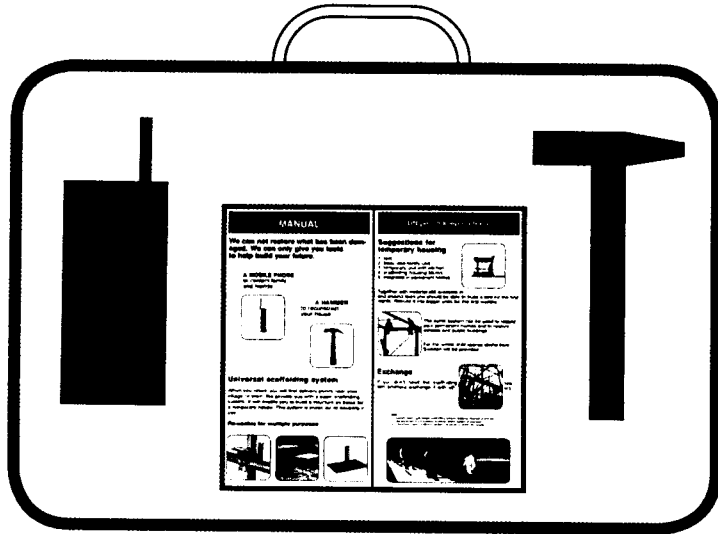
Architecture for Humanity Transitional Housing competition jury members (left to right): Architect Billie Tsien, Heather Harding LaGarde of War Child USA, architect Tod Williams, Herb Sturz of the Open Society Institute, architect Steven Holl, and, in the foreground, Elise Storck of USAID
Heather Harding LaGarde/War Child USA

the widening AIDS pandemic. Though we didn't know it yet, we had
found our next project.

It was apparent that the lack of a widely distributed health system
was trapping these communities in poverty. Residents in Kliptown,
for example, described how when one family member was ill, another
had to stay behind to look after her. In some instances that meant
that now two wage earners were not working. In many cases children
had to leave school and get a job to put food on the table. One
resident, frustrated with the response from the West, said, "We need
real care, not awareness. When one sees one's friends and families
suffering each day, one is aware of the problem. We don't need pop
stars giving concerts, we need doctors giving treatment." Kate and I
had one of those "eureka moments"—instead of expecting patients
to walk 10 to 15 miles to see a doctor, why not bring doctors to them
instead? This was the idea that inspired OUTREACH: Design Ideas
for Mobile Health Clinics to Combat HIV/AIDS in Sub-Saharan Africa
(2001-3).

It would be a couple of years before we would actually launch the
competition. After the bittersweet end to our Kosovo experience,

Transitional Housing Competition for Refugees Returning to Kosovo



Home to return the heart to
 A simple and portable housing system for refugees returning to Kosovo. The system is made of wood and is easy to assemble and disassemble. It is suitable for temporary housing and can be used in a variety of situations. The system is made of wood and is easy to assemble and disassemble. It is suitable for temporary housing and can be used in a variety of situations.

A mobile phone to connect
 A mobile phone to connect the system to the internet. The system is made of wood and is easy to assemble and disassemble. It is suitable for temporary housing and can be used in a variety of situations.

A hammer & scaffolding system to rebuild
 A hammer & scaffolding system to rebuild the system. The system is made of wood and is easy to assemble and disassemble. It is suitable for temporary housing and can be used in a variety of situations.

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 A simple and portable housing system for refugees returning to Kosovo. The system is made of wood and is easy to assemble and disassemble. It is suitable for temporary housing and can be used in a variety of situations.

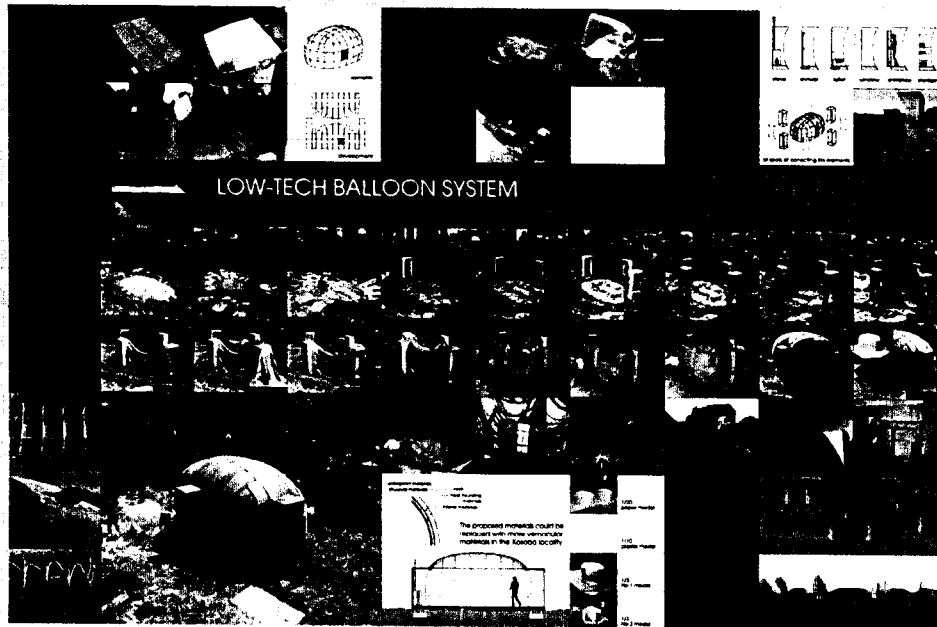
Success 20
 A simple and portable housing system for refugees returning to Kosovo. The system is made of wood and is easy to assemble and disassemble. It is suitable for temporary housing and can be used in a variety of situations.

Special attention
 A simple and portable housing system for refugees returning to Kosovo. The system is made of wood and is easy to assemble and disassemble. It is suitable for temporary housing and can be used in a variety of situations.

Please contact us to give the project a follow-up
 A simple and portable housing system for refugees returning to Kosovo. The system is made of wood and is easy to assemble and disassemble. It is suitable for temporary housing and can be used in a variety of situations.

Transitional Housing
Ruimetalab and Linders en van Dorssen
René Heijne and Jacques Vink with Linders en van Dorssen
Rotterdam, the Netherlands
Finalist

Extreme Housing
Gans and Jelacic
Deborah Gans, Matt Jelacic
New York, NY, USA
Finalist



Low-Tech Balloon System
TechnoCraft
Masaharu Suzuki, Ichiro Katase,
Takeshi Chiba, Takashi Kawano,
Makoto Tsuchida with
Masaharu Suzuki
Tokyo, Japan
Finalist

Transitional Housing
Keenen/Riley
John Keenen, Steven Chang,
Jan Greben, Nathan McRae
New York, NY, USA
Honorable mention

we realized that before taking on a new project we first needed to establish a nonprofit entity. Meanwhile we also needed to earn some money. As neither Kate nor I received a salary, we relied on our day jobs to pay our bills. By now I was working for Gensler and Kate was freelancing. (Many people, especially writers, are amazed to learn that Architecture for Humanity has been partly funded by freelance journalism.) Neither job left much time for extracurricular activities. Still, we managed to enlist the pro bono services of Steve Meier, a lawyer with Morrison and Foerster, who helped us incorporate Architecture for Humanity and apply for 501(c)(3) status. But it took almost two years to get a final determination letter from the Internal Revenue Service.

In the meantime I read a report by Rodney Harber, a South Africa-based architect, who in 1996 wrote the first AIDS brief for architects, highlighting how design could help those affected. It rekindled our idea for the OUTREACH project, and we began researching the issues surrounding mobile health care. Rodney joined the project's advisory board, and we started to enlist the support of dozens of others working in the field of HIV/AIDS awareness and prevention, a number of whom also joined the advisory board.

By late 2001, with the help of the advisory board and this extended network of medical professionals, we had developed criteria for creating dignified and effective mobile care, including ease of deployment and maintenance by a small team of medical professionals, community acceptance, and cost. We were gearing up to launch the project when the World Trade Center was attacked.

When the UNHCR called just a few days later, I felt conflicted: Although we certainly did not have the capacity to take on a project of that scale, it was a great opportunity to get architects and designers involved in a UN initiative. We debated whether to put the Africa project on hold and focus our attention on what seemed to be a more pressing issue. It was an e-mail from one of the doctors in Kenya that made up our minds. He wrote: "You've just experienced a terrible disaster losing 3,000 people in one day; it is truly horrific. Naturally the focus will turn toward bringing those responsible to justice, and projects like ours will be pushed to one side. However, the fact is, Africa loses twice that many people every day to AIDS, and although the loss is not as visible, the pain is just as great."

It seemed obvious that we should let others with more experience respond to the UNHCR call and stay focused on Africa. In the end we simply put out a call to architects in the area interested in working with the United Nations. Although a small gesture, this ability to tap into a network of professionals would become one of the most important functions Architecture for Humanity would perform. Not a month goes by when we don't connect an architect with a nonprofit, government entity, or community group—or vice versa.

In the spring of 2002 we officially launched the Africa competition. Again, we were stunned by the response. During the five-month

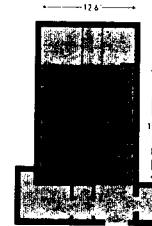
call 1,400 designers, medical professionals, and students from over 50 countries responded. A total of 531 designs were submitted, 25 percent more than for the Lower Manhattan Development Corporation's competition for the World Trade Center complex.

Here I should point out that the Architecture for Humanity "office" was now also our one-room, 400-square-foot (37-sq.-m) apartment, dubbed "suite 3A," and we had listed this address on the competition entry form. So on November 1, 2002, all 500-plus entries arrived at our doorstep via three mail trucks, leaving us with little space to work or live in and resulting in one very befuddled building superintendent. Luckily Ray Gastil and the Van Alen Institute came to our rescue again, this time not only providing space in which to store the entries, run the jury, and host an exhibition, but also donating the services of the institute's program director, Jonathan Cohen-Litant, who turned out to be an organizational wunderkind and exhibition miracle worker.

A couple of weeks later an international jury of architects and medical professionals met to go through the entries. The process was rigorous and thorough, with discussions revolving around issues of mobility, storage, security, and community involvement. For example, the jury believed that semiarticulated trucks would not be able to cover the region's difficult terrain, particularly during inclement weather. This brought us to the now-infamous "donkey debate." Many of the jury members shied away from solutions that used animals as a means of transport, but as a number of the Africa-based jurors pointed out, designs dependent on a specific vehicle type could require



above
Competition boards arrive at
Architecture for Humanity's
"office" on 20th Street in New York.



Architecture for Humanity Office __2003-2005
New York, NY

Average number of volunteers	2
Maximum number of volunteers	5
Area	380 sq. ft.
Distance to nearest coffee	150 ft
Average # coffees per day	4
Average workday	14 hours

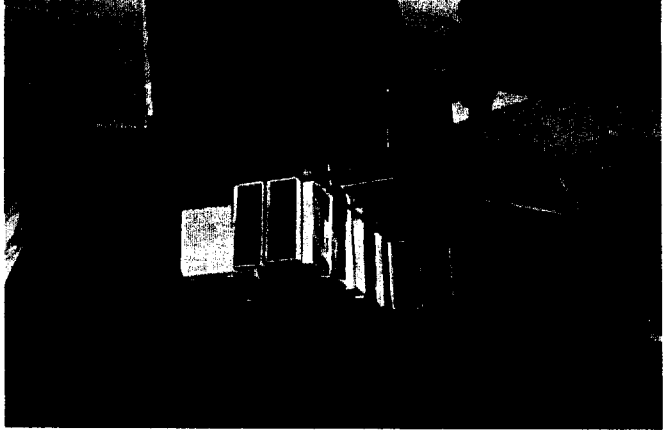
maintenance and spare parts discussion was that using appropriate transportation modes—even do access. Other significant concerns: storage; the need to secure equipment a lockable space during transport; ownership within the community of the region in terms of favored designs that could be "Africanized." After two days of finalists and eight notable entries

Over the course of the jury process of designs that might be considered as always, thought-provoking. The clinic and strapped-in medical supplies plane into an unsuspecting villa. Images of bloodied and bruised patients after it had barreled its way through entry that certainly raised eyebrows that "extended" on arrival to a suggestive manner.

Joking aside, a number of the boards that incorporated images and in some cases dying of starvation designing with pity and not pride were submitted by interdisciplinary medical consultants, that approach and optimism.

The winning designs, along with others were exhibited at galleries and in Europe. The show included dirigibles, high-tech and low-tech by Jeff Alan Gard, was an airship detachable motorbikes. Kenya-t as a political statement on the issue. "If AIDS was at a rate in the United States would not be concerned with cost building them until we can put a projects embraced similar them militaristic "pre-emptive strike" Soren Barr and Chris French involved vehicles from Africa's civil wars seemingly lighthearted, commercial facing the subcontinent. One of the Field Clinic, a grow-your-own-clinical important issue of nutrition.

As part of the project we also college and high school students



Design Like You Give a Damn

top Jury members review competition boards from the OUTREACH competition to design mobile health clinics to combat HIV/AIDS in sub-Saharan Africa.

Cameron Sinclair/Architecture for Humanity

above Arup engineers from Botswana and South Africa discuss structural issues of a mobile health clinic with its designers, Heide Schuster and Wilfried Hofmann.

Cameron Sinclair/Architecture for Humanity

maintenance and spare parts difficult to obtain in many areas. The consensus was that using appropriate technology and a range of transportation modes—even donkeys—offered greater mobility and access. Other significant concerns included adequate and flexible storage; the need to secure equipment and supplies in a lockable space during transport and at night; and creating ownership within the community. Finally, recognizing the diversity of the region in terms of geography and culture, the group favored designs that could be "localized" rather than those that were "Africanized." After two days of deliberation the jury selected four finalists and eight notable entries.

Over the course of the jury process we also came across a number of designs that might be considered less than feasible but were, as always, thought-provoking. The giant soccer ball, complete with clinic and strapped-in medical staff, that was to be ejected from a plane into an unsuspecting village completely stumped the jury. Images of bloodied and bruised doctors staggering out of the clinic after it had barreled its way through town came to mind. The other entry that certainly raised eyebrows was the truck with a spherical cab that "extended" on arrival to unveil the clinic in a highly suggestive manner.

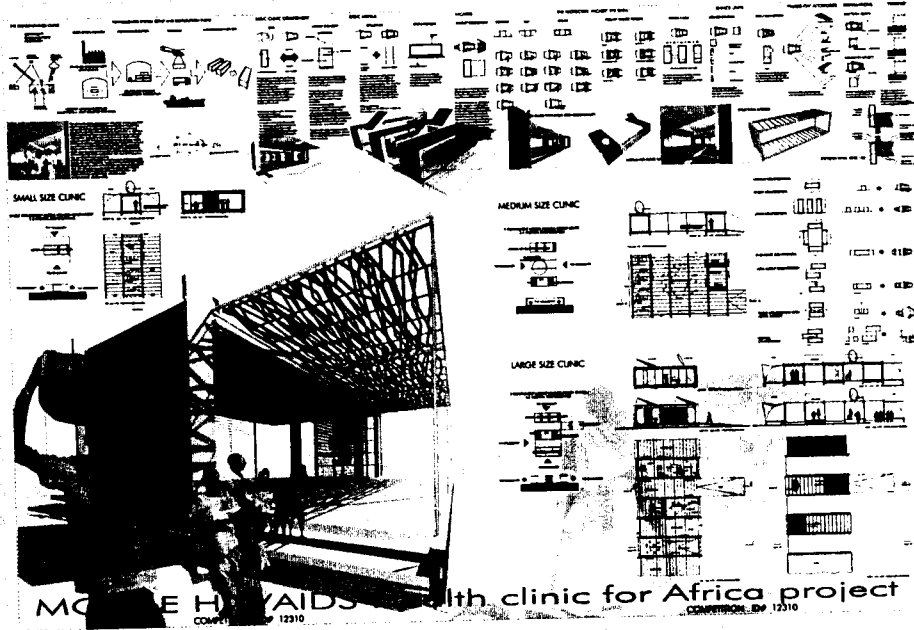
Joking aside, a number of the jury members felt that submission boards that incorporated images of Africans afflicted with HIV/AIDS, and in some cases dying of starvation, showed that teams were designing with pity and not pride. The most successful projects were submitted by interdisciplinary teams, which usually included a medical consultant, that approached the issue with dignity and optimism.

The winning designs, along with others that inspired and informed, were exhibited at galleries and museums across the United States and Europe. The show included donkey-powered designs and dirigibles, high-tech and low-tech solutions. One notable entry, by Jeff Alan Gard, was an airship with a fully deployable clinic and detachable motorbikes. Kenya-based juror Reuben Mutiso selected it as a political statement on the inequity of global health care, noting, "If AIDS was at a rate in the United States that it is in Africa, we would not be concerned with cost. We would build these and keep building them until we can put a stop to this pandemic." Numerous projects embraced similar themes: Africa Under Siege proposed a "pre-emptive strike" approach, whereas the proposal by Soren Barr and Chris French involved converting tanks and military vehicles from Africa's civil wars into clinics. Other designs, some seemingly lighthearted, commented on various other struggles facing the subcontinent. One of our personal favorites was the Kenaf Field Clinic, a grow-your-own-clinic design, which highlighted the important issue of nutrition.

As part of the project we also held a number of workshops for college and high school students to learn about HIV/AIDS and

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OUTREACH: Design Ideas for Mobile Health Clinics to Combat HIV/AIDS in Sub-Saharan Africa

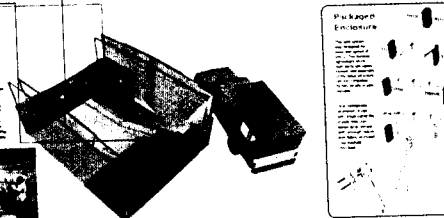
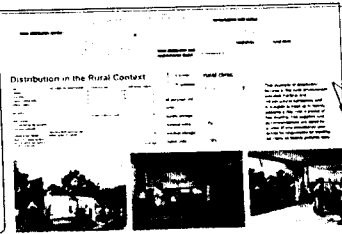
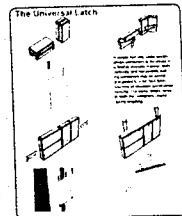
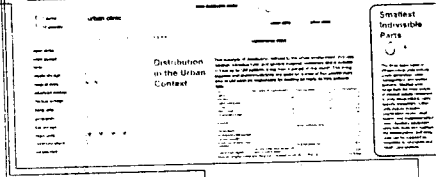
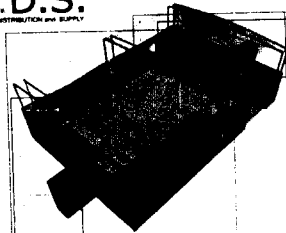
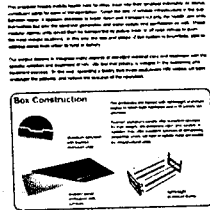


Mobile Health Clinic
 Mikkel Beedholmm, Mads Hansen,
 Jan Søndergaard
 KHRAS Architects
 Virum, Denmark
 First-place finalist

Mobile Intervention
 Heide Schuster, Wilfried Hofmann
 University of Dortmund
 Dortmund, Germany
 Third-place finalist

B. C.S.M.E.D.S.

BASIC OPERABLE CONTAINER SYSTEM OF MEDICAL EQUIPMENT DISTRIBUTION AND SUPPLY



B.O.C.S.M.E.D.S.
 Brendan Harnett,
 Michelle Myers
 Rensselaer Polytechnic Institute
 Troy, NY, USA
 Second-place finalist

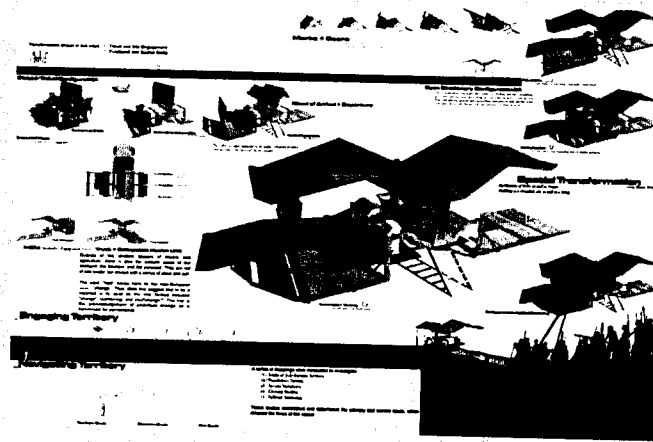
Mobile Health Clinic
 Gaston Tolila, Nicholas Gililand
 LILA Design
 Paris, France
 Founders Award

OUTREACH: Design Ideas for Mobile Health Clinics to Combat HIV/AIDS in Sub-Saharan Africa

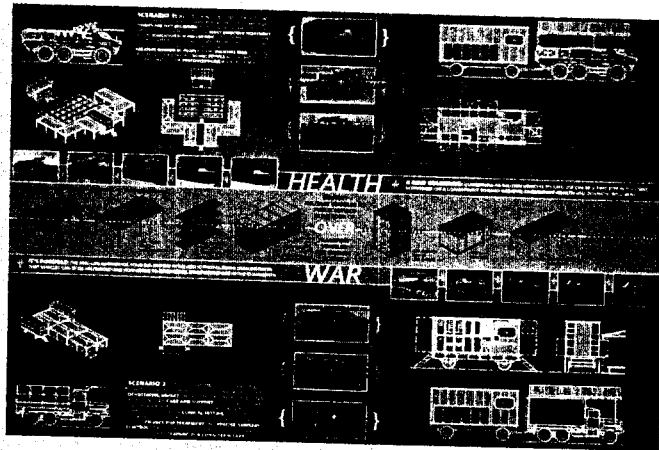
AFRICA UNDER SIEGE



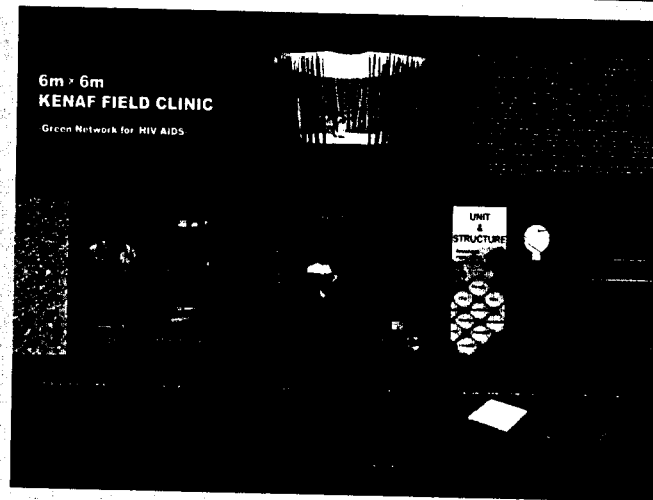
Africa Under Seige
 Craig Coulton, Marcel Botha
 London, England, and Cape Town, South Africa



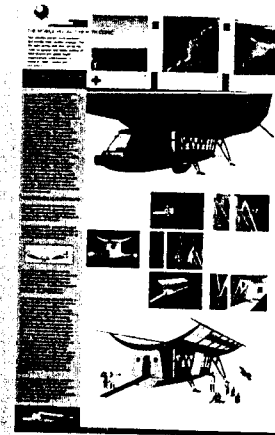
Mobile Health Clinic
 Detroit Collaborative Design Center
 Dan Pitera, Chris Lee, Christina Heximer, Andrew Sturm
 Detroit, Mich., USA



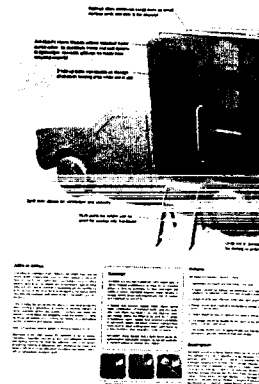
Health Over War
 Soren Barr, Chris French
 Washington, DC, USA



6m x 6m KENAF FIELD CLINIC
 Green Network for HIV/AIDS
Kenaf Field Clinic
 Kyoto University
 Hirohide Kobayashi with Takeyuki Okubo, Koichi Shiwaku,
 Shohei Yokoyama, Ayako Fujieda, Takeyuki Yamada, Yohei
 Kondo, Toru Fukano
 Kyoto, Japan



Mobile Health Clinic
 JAG Design
 Jeff Alan Gard
 San Francisco, Calif., USA



Aid-Mobil
 PanicButter
 Linus Lam, Denise Lam
 Winnipeg, Canada

health care in developing countries. In New York an after-school program organized a group of high schoolers from Harlem to visit the exhibition. (Unfortunately their teacher had written down the address of our "office," not the gallery, and while I was waiting at the Van Alen, Kate found herself with 30 bemused teenagers in our tiny studio, all lining up to use the bathroom after a long subway ride.)

By the end of 2003 the OUTREACH exhibit had been viewed by over 40,000 people and covered in many publications, and it seemed politicians were finally taking the threat of AIDS in Africa seriously. In May 2003 President Bush signed into law a five-year, \$15 billion worldwide Emergency Plan for AIDS Relief. A key component called for the development of a layered network of central medical centers that support satellite clinics and mobile units in rural areas. According to the plan these clinics would be staffed by lay technicians, possibly rotating nurses, and local healers, who would be trained in standard clinical evaluation and the distribution of medication. We were taken aback, as the wording mirrored (almost exactly) the criteria we had published on the Web a year earlier. Some have suggested the administration might have been honing its "cut-and-paste" skills during the last rewrite of its plan. Either way, it showed that much of what we had been advocating had broad support and had actually made it into policy.

Yet there was little interest in funding the project. For example, when the *New York Times* ran a two-page story on the project, the writer briefly mentioned that Kate and I had also started something called the Uncoordinated Soccer League, for those among us who are "athletically challenged." The article generated five times as many inquiries about the soccer team as it did offers to support OUTREACH. By the spring of 2004, however, we had raised enough donations, including sponsorship from Virgin Atlantic, to send the top four design teams to Somkhele, South Africa, one of the areas hardest hit by the virus, to participate in a development workshop.

The workshop, cohosted by the Africa Centre for Health and Population Studies, was an opportunity for design teams to collaborate with community members, relief organization representatives, local doctors, engineers, and transportation experts to develop and refine their projects. The teams also visited a range of clinics and clinic types in the area, allowing them to see firsthand the needs of health-care professionals battling the HIV/AIDS pandemic. During the charrette the four teams worked with medical groups and other potential partners. At the end of the two-week trip both the Africa Centre and Dr. Shaffiq Essajee, who directed the AIDS Research and Family Care Clinic in Mombasa, Kenya, and had served on both our advisory board and our jury, expressed interest in partnering with us—if we could find the funding to build a prototype.

When we started pitching the idea to doctors and other health professionals, we had thought that mobile medical care had been around for decades. As it turned out, although the profession had

been discussing it, few programs had been implemented. One of the hard lessons that came out of the project was that even though these designs were contextual and affordable, in some cases costing 80 percent less than a permanent clinic, they could not be implemented without funding to maintain the facility. And while a clinic might cost \$30,000 to produce, almost \$1.5 million would be needed to run it and provide antiretroviral drugs for the community.

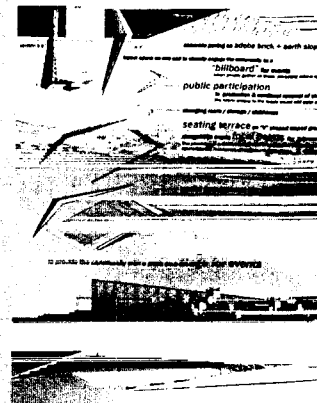
We spent most of 2002 and 2003 applying for grants. At one point we had five people all crammed into the "office," researching and contacting hundreds of foundations. We soon learned that there were very few grants dedicated to building health-care facilities, let alone mobile health-care facilities, and almost no funds dedicated to architecture. More frustrating, the health-oriented foundations that did offer funding for new infrastructure required applications from our medical partners, who were quite rightly too busy with day-to-day operations to take time out to write yet another grant application. At one low point we were turned down for a grant for which we hadn't even applied. We've since focused much of our energy on building a donor base, turning Architecture for Humanity into a fundraising conduit so that architects and community groups looking for funding for community design projects now have a place to turn.

It would be easy to say the project failed for lack of funding, but that wasn't the only reason. We hadn't made the role of the architect—or the commitment required—clear in the development process. Many architects couldn't take time off work to focus on the project. We also hit a snag over intellectual property rights. One of the finalists, Mads Hansen, was caught between a firm that wanted to license his team's idea and his desire to implement the project. This situation left the design—and us—in an awkward state of limbo and made it nearly impossible to pursue the project, despite the Africa Centre's enthusiasm for building a prototype of the design.

Nonetheless, the OUTREACH project continues to garner attention. In 2005 we presented the projects at an international conference on mobile health care, where a representative from the National Institutes of Health thanked us for opening their eyes to other ways of delivering mobile care. Moreover, as the cost of antiretroviral drugs has dropped, thanks in part to the Clinton Foundation and countries like Brazil that embraced generic drugs, the concept of mobile care has become even more viable.

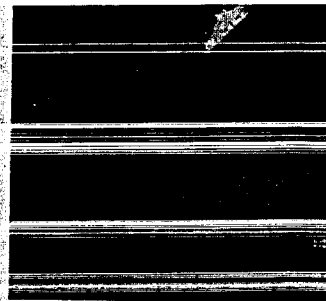
Also, as with the Kosovo endeavor, a number of designers pushed forward with developing projects on their own. After the African workshop the team of Nicholas Gilliland and Gaston Tolila formed LILA Design and built a prototype of their concept to scale for an exhibition at the Pompidou Center in Paris (see "Mobile Health Clinic") and is currently working to design a health center in Tanzania. Pierre Bélanger, who teaches landscape architecture at the University of Toronto and whose design was selected for the exhibition as one of the most pragmatic solutions, teamed

Siyathemba Competition to I



Siyathemba Youth Soccer Pitch
Swee Hong Ng
Pittsburgh, Penn., USA
First-place finalist

SHARE THE SHELTER



Share the Shelter
Guy Lafranchi, Dietmar Panzenböck
Liebefeld and Bern, Switzerland
Third-place finalist

up with Owens Wiwa, a physician from the university's Centre for International Health and a native of Nigeria. Using the university's rapid prototyping lab, Bélanger and Wiwa modified a Mercedes-Benz Vario 814 cargo panel van to create a self-contained, fully operational medical clinic. The clinic is now in use on the A3 highway in southeastern Nigeria. Finally, Geoff Piper, Jamie Fleming, and Matthew Sullivan, a team of former University of Washington students, adapted three motorcycles into mobile medical units for rural areas in Kenya.

Perhaps more important, the project enabled us to develop a relationship with the Africa Centre, which eventually led to our third design competition and a project to develop a soccer club that would double as a health outreach center (see "Siyathemba Soccer 'Clinic").

As support for Architecture for Humanity grew, we received more and more requests from people and groups wanting to volunteer or get involved in their own communities. Beginning in late 2003 "AFH chapters" began sprouting up around the world, whether we were ready or not. By 2004 hundreds of people were meeting once a month in bars or restaurants to discuss ways of giving back to the community. In New York City, home of the largest local group, designers are providing free services for the rehabilitation and greening of ABC No Rio, a community space in the East Village; a women's shelter redesign; and targeted improvements for The Point CDC, a community center in the South Bronx.

Often we would only find out about the activities of a group when a local representative would contact us. Usually this meant a phone call along the lines of "Hi. This is the head of AFH San Diego, and we want to start a building project on the US/Mexico border. Is that OK?" As far as we know, in the United States there are active groups in around 30 cities including Atlanta, Boston, Minneapolis, New York, San Diego, San Francisco, and Seattle. Internationally there are groups in Dublin, Genoa, London, and Sydney.

Along the way we've worked with a number of remarkable people. Asia Wright introduced herself as our events coordinator, and before long we were traveling the country giving guerilla talks at colleges and community groups. People would randomly show up at our office and start working. Dave Schiff and Susan Surface appeared in the middle of our grant-writing marathon and felt the full brunt of the unsexy side of this work. A number of contributors and researchers on this book, notably Kathryn Frankel and Cynthia Barton, said they wated to get involved and found themselves making calls at all hours to every corner of the globe. Most recently, Matt Miller turned up from Detroit in his Airstream, and Laura Cole showed up in the middle of a road trip with her dog, Ginger, from Memphis. Both announced they had some time to help out—big mistake.

We have also joined forces with universities to host design/build workshops. In our largest to date we collaborated with Miami



Emily Chaffee, Karin Schierhold, and Tiona Martin go over urban planning strategies for Over-the-Rhine in Cincinnati, Ohio.

Cameron Sinclair/Architecture for Humanity

University's Center for Community Engagement in Over-the-Rhine, in Cincinnati, Ohio. The project was held in September 2004 in commemoration of the fortieth anniversary of Freedom Summer and involved over 65 architects, designers, and community members, including an original Freedom Summer civil rights leader. It used design to encourage voter registration, develop urban planning strategies, and inspire community participation in Over-the-Rhine, a disenfranchised neighborhood.

Over time Architecture for Humanity became a conduit, supporting innovative design and creating opportunities for architects to lend their services in times of need. For example, when the city of Bam, Iran, suffered a monumental earthquake on December 26, 2003, we helped raise funds for Relief International, a US-based NGO that had created innovative structures in the region after an earthquake two years earlier, to build innovative earthquake-resistant housing using steel subframes combined with local mud-block construction.

Later in the year we connected Ferrara Design, designers of Global Village Shelters (see "Global Village Shelters"), with the government of Grenada. The father-daughter team behind Global Village Shelters, Daniel and Mia Ferrara, had designed an innovative foldable cardboard shelter, which they believed could be used in postdisaster and other emergency situations. They had partnered with Weyerhaeuser to manufacture prototypes of the design, which cost only \$370 each, but they needed help to get the shelters field-tested. At about this time Grenada had just been ravaged by Hurricane Ivan, causing millions of

above and right
AFHny worked with The Point CDC to create a phased plan of improvements to their building (identified by letters to the left of the plan). The first project to be realized is a system of shelving and storage, which was funded by The Point and a grant from Architecture for Humanity.

top right
AFHny's Point team atop storage units being built for the building's atrium. Left to right: Jack Heaney, Karen Kubey (coordinator), Pollyanna Rhee, Jason Gibbs, Carrie Bobo, Jon Kan (not pictured: Brad Groff).

AFHny



a

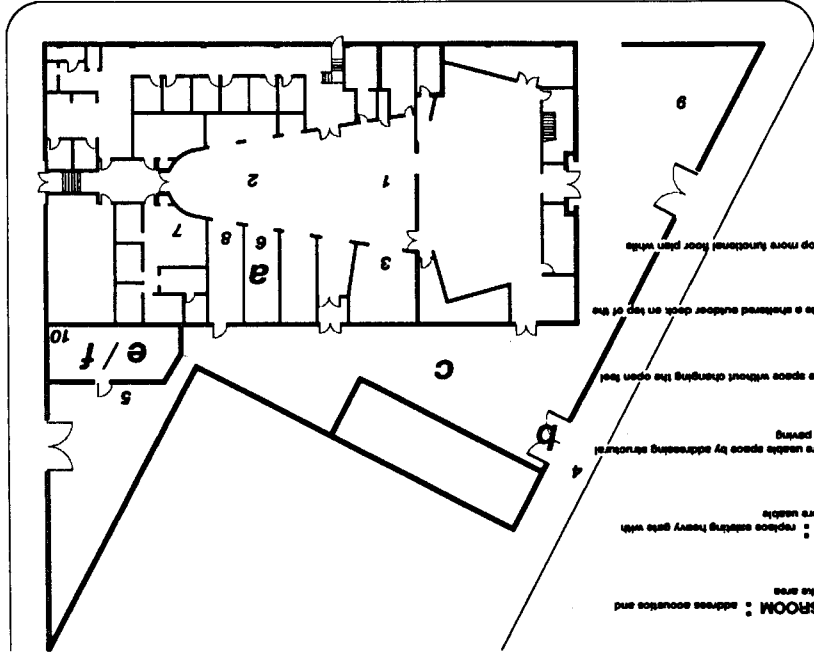
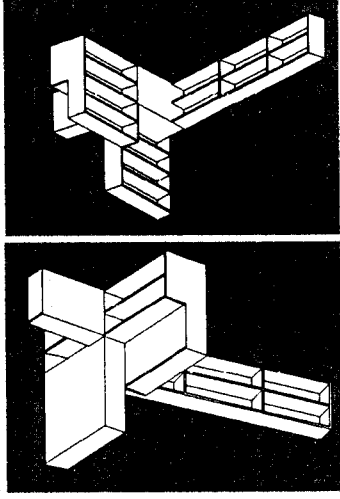
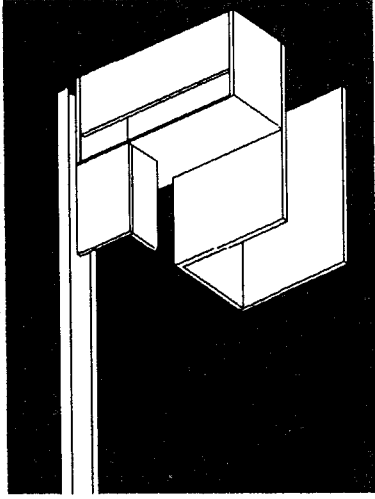
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a SECOND FLOOR CLASSROOM : address acoustics and overwriting issues in this left-his area

b MAINDA STREET GATE : replace existing heavy gate with something equally secure but more usable

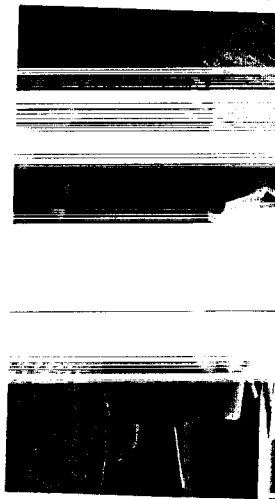
c COURTYARD : create more usable space by addressing structural issues of existing brick wall and paving

d STORAGE : develop storage space without changing the open feel

e OUTDOOR DECK : create a sheltered outdoor deck on top of the music studio

f MUSIC STUDIO : develop more functional floor plan with creating storage

above and right
AFHny worked with The Point
CDC to create a phased plan of
improvements to their building
identified by letters to the
left of the plan). The first project
to be realized is a system of
shelving and storage, which was
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dollars of damage, decimating 85 percent of the housing stock, and wiping out almost all of the island's main cash crop, nutmeg. With no postdisaster relief plan in place and scant media attention, it took many months for recovery efforts to begin. Just as construction was getting under way, Hurricane Emily slammed into the island.

In response to this second disaster, with the help of Laurinda Spear of the Miami-based architecture firm Arquitectonica and volunteer Marisa Fort-Spear, Architecture for Humanity connected Mia and Dan with officials in Grenada and helped fund a collaborative effort between Ferrara Design and Grenada Relief, Recovery, and Reconstruction (GR3). Together we shipped 70 transitional shelters to the island for use as temporary homes and rural clinics. GR3, which is affiliated with St. George's Medical School, helped distribute the units and made sure they got to those most in need.

In another instance, the nonprofit Kids with Cameras asked us to help develop initial schematic plans for a school for children of the brothels in Calcutta, India. We worked with students at Montana State University, where I was teaching at the time, to create seven potential schemes. After a series of reviews the students refined their ideas for final presentation to Kids with Cameras at the end of the semester. The design process helped the organization solidify their plans and launch a fundraising campaign to build the school.

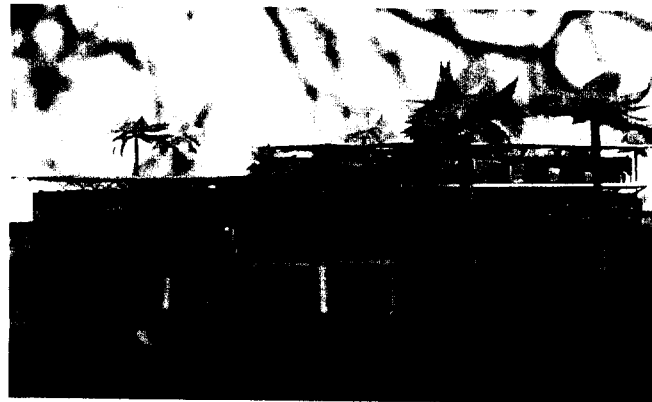
Overall, our projects have inspired planners and others to think creatively about how to solve issues in their community. For example, the Kansas City Economic Development Corporation used our Siyathemba competition to build a soccer club that would double as a health outreach center as a model to persuade city counselors to turn an abandoned lot into a park. We talked them through the process of setting up a design initiative and gave them suggestions on how to plan a design competition of their own.

Then, on December 26, 2004, Architecture for Humanity went from being a small design group to being a design-oriented organization (with an office) seemingly overnight, when a 9.3-magnitude earthquake in the Indian Ocean unleashed the deadliest tsunami in recorded history. Waves traveled thousands of miles, pummeling the coasts of countries as far apart as Indonesia, the Maldives, Sri Lanka, and Somalia. The tsunami took the lives of more than 225,000 people in 13 countries and left over four million displaced. The Indonesian province of Aceh and the coastline of Sri Lanka, both impoverished by years of conflict before the disaster struck, were hardest hit.

This was a key moment, not just for our organization but for the entire movement for socially conscious design. The need was immense, and this was one of the first disasters in recent memory where attention was focused not only on the immediate humanitarian concerns but also on the enormity of the reconstruction task that lay ahead. We partnered with Worldchanging.com to raise funds to bring design services to the area. It would be our largest initiative to date—and the most complex.

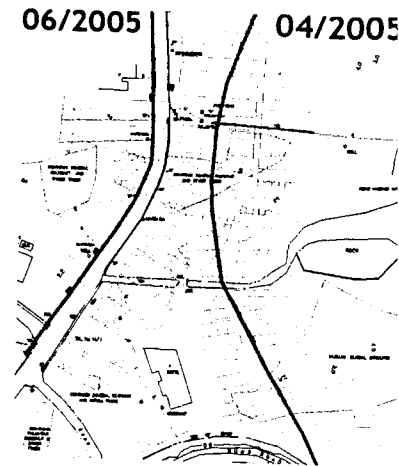
In the days following the tsunami we became involved in Kirinda, a small fishing village on the southeast coast of Sri Lanka. Samir Shah, an experienced designer who happened to be in the country as a Fulbright scholar and would soon become our on-the-ground field rep, brought the project to our attention. He had joined forces with a team of local architects, including Pradeep Kodikara, Varuna de Silva, and Sanath Liyanage, to assess the damage in Kirinda, which had been hard hit by the sea surge. Eventually the team volunteered its services to the government as the Urban Development Authority Kirinda Planning Team. For the next two months the architects worked with the community to develop a strategy for a sustainable town plan that would integrate both economic and civic nodes as well as connect with the newer resettled communities. Architecture for Humanity committed to help the team implement the civic and community buildings called for in the plan. However, before the new Kirinda town plan could be approved, a survey would have to be conducted to demarcate what came to be known as the 100-Meter Line.

In the first few weeks after the tsunami the governments of the affected countries started to implement "no-build" zones, areas deemed too close to the shore for safe building. Regulations in Sri Lanka called for a 100-meter buffer zone from the shore, but how the line was measured varied. In some cases surveyors measured from the shoreline, in other cases from the beach, and in still others from the nearest landmark. In Kirinda a line of 100 meters was set; but the team was not too concerned, as this did not affect its plan for rebuilding. However, the line began to move week by week. The most tense day was when a government surveyor started placing



Scale model of a school design for Kids with Cameras by Montana State University students Nicole Bellefeuille, Adam DeJarlais, Marit Lueth, Melanie Boyd, Timothy Sanford, Peter Costanti, and Lauren Anderson

Cameron Sinclair/Architecture for Humanity



above
Reconstruction plan for Kirinda, Sri Lanka, showing 100-Meter Line, designed by Samir Shah, Pradeep Kodikara, and Sanath Liyanage

below
Painted pegs in Kirinda, Sri Lanka, mark where surveyors would often place pegs such that the homes that had been untouched by the tsunami here were told that their home would be torn down the 100-Meter Line. They were also told that the assistance because their home was still standing located on the safe side of the line. At the time this structure.

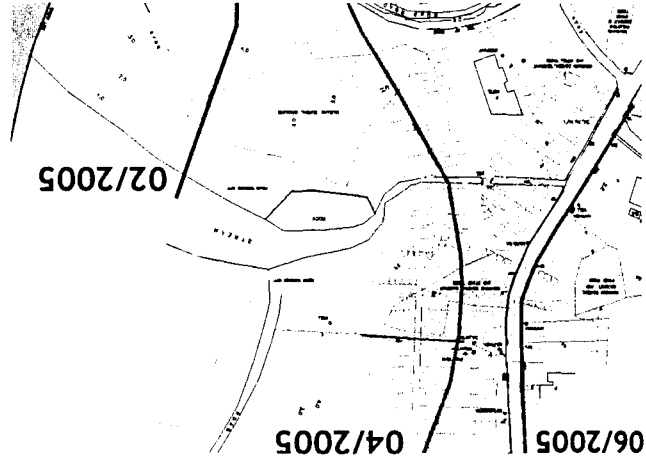
Cameron Sinclair/Architecture for Humanity

stakes in the ground. Rather than measuring from the shore, he took the measurement from the road closest to the ocean, so that in some areas the line moved inland as far as 300 meters. Upset, the community began pulling the stakes out behind him as he went along. This would have been comical if it had not been for the fact that the line would determine whose homes would remain and whose would be torn down.

The architects persevered. Then, four months into refining the plan, during a large community meeting, government representatives of the Urban Development Authority decided that the line should move even farther inland to include every building on the ocean side of Kirinda's main road—even if that meant the line was 500 meters farther inland than the government's own guidelines prescribed. For the team it was the final blow. After receiving approval for their plan three times, the architects were back at the drawing board with no assurances that the line would stay put. Community members lost faith in the process, and reconstruction came to a standstill. In late October—10 months after the tsunami, with no approved plan and residents still sleeping in tents—the line moved again, this time to 50 meters from the shore—in other words, 50 meters farther inland than the government's original zoning regulation.

Sadly, what happened at Kirinda is not an isolated incident; for the most part the relief and reconstruction effort was chaotic and crippled by bureaucracy. Competition for projects between hundreds of groups led to delays, duplication of efforts, and community resentment. (In Sri Lanka alone there are now more than 1,000 NGOs working on tsunami-related projects.) Various decrees from government ministries dictated the minimum standards and funding commitments aid agencies could make in order to receive government support for the construction of housing and schools; in many instances these were in direct conflict with each other, and the ever-changing standards resulted in stagnation. Often multiple aid agencies received official memorandums of understanding for the same project on the same site from different government agencies, further complicating and delaying construction. Still, before Samir left to return to the United States he helped initiate a number of projects, including partnering with Relief International on a project to design and build transitional schools. The goal was to design a basic cost-effective structure that would enable students to return to school during the two years it would take to rebuild permanent facilities. The resulting plans, designed by Jason Anderson, a student at Montana State University, interned in our office, with input from Samir and Relief International, drew from the regional vernacular and included rainwater collection systems. Simple and flexible, the scheme allowed local construction crews, many of them made up largely of parents, to adapt the design to accommodate different materials and building methods. With

Design Like You Give a Damn



above
Reconstruction plan for Kirinda, Sri Lanka, showing the shifting 100-Meter Line, designed by Samir Shah, Pradeep Kodikara, Varuna de Silva, and Sanath Liyanage

below
Painted pegs in Kirinda, Sri Lanka, mark where it is safe to rebuild. Surveyors would often place pegs such that the 100-Meter Line ran through homes that had been untouched by the tsunami. The extended family pictured here was told that their home would be torn down because it crossed over the 100-Meter Line. They were also told that they were ineligible for housing assistance because their home was still standing and half of it was located on the safe side of the line. At the time there were 17 people living in this structure.

Cameron Sinclair/Architecture for Humanity



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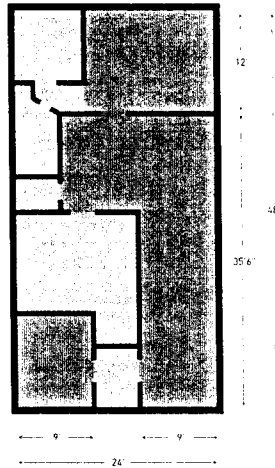
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funding from Architecture for Humanity, five transitional schools were built throughout the Ampara region.

Meanwhile, Susi Jane Platt, a site architect who had worked on large-scale projects in Britain, picked up where Samir left off. She is now working in the same area to implement a number of community-based projects, including women-run bakeries, schools, a medical clinic, and a livelihoods center.

Architecture for Humanity is also funding and providing design services for a number of reconstruction projects in Tamil Nadu, India, which was also badly affected by the tsunami. Here we have partnered with the League of Education and Development (LEAD), an affiliate of the Barefoot Architects (see "Barefoot College"), and AIA-registered, LEED-certified architect Purnima McCutcheon to design and build three community centers and a new pier since the tsunami raised the water level of an estuary, making it impossible for people to wade across it and preventing some 350 students from walking to school.

Rather than build an expensive bridge, the community decided to build a pier that will enable a boat to ferry students across the river. (Parents have joined together to pay a former fisherman to captain the boat.)



Architecture for Humanity Office — 2005
Bozeman, MT

- Average number of volunteers 4
- Maximum number of volunteers 7
- Area 1000 sq. ft.
- Distance to nearest coffee 10 ft
- Average # coffees per day 5
- Average workday 17.5 hours

Useable Workspace

We also have supported student-led community rebuilding initiatives, including a joint effort by the Harvard Graduate School of Design and MIT's SENSEable City Laboratory (see "Safe[R] House"), as well as a project to build a women's collaborative near Auroville, India, that was instigated and designed by Travis Eby and Lauren Farquhar, two students from the University of Cincinnati.

Just as our tsunami projects were getting under way there came a new disaster. For years experts had warned of the dangers of a direct hit from a Category 4 or 5 hurricane to the city of New Orleans: "Though protected by levees designed to withstand the most common storms, New Orleans is surrounded by water and is well below sea level at many points. A flood from a powerful hurricane can get trapped for weeks inside the levee system," warned a 2002 exposé in the *Times-Picayune*. On August 29, 2005, Hurricane Katrina gathered speed and force and touched ground near New Orleans as a Category 4 storm. The 145-mile-per-hour (235-km-per-hour) winds cut a path of destruction across the Gulf Coast region. As predicted, the storm surge breached the New Orleans levee system, effectively turning the city into a bowl to be filled with water. Flooding submerged 80 percent of the city under water as high as 20 feet (six m) in some places. The disaster outstripped the capacity of officials at all levels to respond and was compounded when Hurricane Rita hit Texas less than four weeks later. Together, the storms served as a stark reminder of the need to plan for regional emergency shelter before—not after—the inevitable happens. Horrified Americans watched TV footage of bodies floating in the flood waters and thousands of people, stranded in unsafe and unsanitary conditions in the New Orleans convention center, pleading for help.

The storms displaced more than a million people, who found shelter in temporary housing (either with friends and family or through FEMA's rental vouchers) in more than 48 states. The diaspora has complicated the area's recovery and made it difficult for residents to have a voice in reconstruction. FEMA has proposed controversial temporary trailer parks, each to house between 200 and 300 displaced families for the short term. In response many designers have proposed temporary shelter that could be sited on or near families' former residences to help speed the recovery effort. While it is too early to say what shape the rebuilding will take, Architecture for Humanity is working with community centers in the region to create resource centers that will give residents access not only to financial assistance but also to architectural services. We hope the centers will become places where families will come to rebuild their lives and more sustainable communities.

Just five weeks after hurricanes Katrina and Rita struck, a catastrophic earthquake hit the Kashmir region and left the world reeling yet again. On their own each of these disasters was of a scale that overwhelmed the government agencies and NGOs charged with responding. Coming as they did within months of each other, the

result was a disaster within a disaster affected by the lack of capacity to

As we write this text, over 87,000 quake—many of them children who collapsed—and over two million people in real danger is yet to come with the winter. Without aid, officials say, thousands of illness, and infection, potentially resulting in toll several times over. Within weeks we are leaving over 500,000 people without shelter. Ironies, Pakistan has been one of the most affected by emergency tents.)

Since the inception of Architecture for Humanity, varying degrees of success and failure have been learned much and progressed a little. We soon discovered that there is no one-size-fits-all. And although we have constructed many centers, we have managed to create a solid foundation in the industry.

In the future our goal is to create innovative solutions while still protecting the environment. Time and again we have come across challenges that, if allowed to develop, could make a huge difference in alleviating many global housing crises.



A community meeting facilitated by architecture for humanity. Here, team members talk with the newly displaced.

Susi Jane Platt/Architecture for Humanity

a considerable amount of time and effort and is understandably reluctant to give her design away, for fear someone could "steal" it for profit.

As a result we are currently working with Creative Commons, a nonprofit that offers flexible copyright licenses for creative works, to develop a licensing system for the donation of architectural and design services in areas of great need. This system is to be based on an existing license that allows the holder copyright protection in the developed world while giving her varying degrees of control in developing nations. Using this license we hope to build a database of "some rights protected" designs, including construction documents, so that there can be a wider distribution of innovative ideas.

By supporting innovative design, consulting with NGOs, and connecting professionals with projects in the field, we're creating opportunities for designers to get involved and to bring their services to those in need. We have demonstrated, and hope to continue to do so, that for every "celebrity architect" there are hundreds of designers around the world, working under the ideal that it is not just how we build but what we build that truly matters. This book represents just a sampling of their efforts. In some cases these designers directly, in other cases designers have pursued their ideas independently and it simply has been a pleasure to learn about their work.



Design Like You Give a Damn

A community meeting facilitated by architect Susi Jane Platt in Pottuvil, Sri Lanka, to design women-run community bakeries as part of a livelihoods initiative. Here, team members talk with the newly formed cooperatives.

Susi Jane Platt/Architecture for Humanity

result was a disaster within a disaster: Kashmir was particularly affected by the lack of capacity to react.

As we write this text, over 87,000 people have died from the quake—many of them children who attended the 6,000 schools that collapsed—and over two million people have been displaced. The real danger is yet to come with the onset of the brutal Himalayan winter. Without aid, officials say, thousands could die of exposure, illness, and infection, potentially multiplying the original death toll several times over. Within weeks agencies ran out of tents, leaving over 500,000 people without shelter. (In one of life's sad ironies, Pakistan has been one of the world's largest producers of emergency tents.)

Since the inception of Architecture for Humanity, we have had varying degrees of success and failure, and with every project we've learned much and progressed a little further. Initially we thought ours would be a small organization focused on small projects. We soon discovered that there is no such thing as a small project. And although we have constructed only a dozen buildings, we have managed to create a solid foundation as a conduit for change in the industry.

In the future our goal is to create an open-source network of innovative solutions while still protecting the rights of the designer. Time and again we have come across a building idea that, if allowed to develop, could make a huge impact and possibly help alleviate many global housing crises. Yet the designer has invested

community rebuilding

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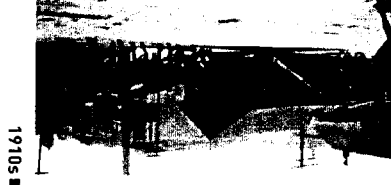
In the immediate aftermath of the earthquake and fires, the US Army, a citizens' committee made up of 50 prominent San Franciscans, and the American Red Cross, which had been established only 25 years before, were the first and primary agencies to respond. Survivors who had the means either left the city or roomed with friends or relatives outside of the burned district. Those who remained were those with little alternative, primarily the working poor and the destitute.

Initially the Army, the American Red Cross, and volunteers provided tents. But as aid workers and officials shifted their focus from relief to recovery and reconstruction, a combination of grants and loans were given to middle-class families who owned land for could afford to purchase land) and who could demonstrate credit-worthiness to support the building of permanent housing in the burned district.⁴

However, more than a month after the disaster some 40,000 "refugees" were still living in makeshift tent camps throughout the city.⁵ The camps posed a new worry: How long would survivors live in the city's parks? Concerned by the possibility of permanent squatter settlements, the civilian committee charged with leading the relief efforts debated how to clear the camps. In the midst of this quandary officials noted that many of those remaining in the camps had not lost everything. They still had jobs. With these low-income wage earners in mind, the committee arrived at a novel solution, one that would provide temporary housing for the working poor while guaranteeing an end to the camps. At the center of this strategy was the design for a small wooden cottage.

Between September 1906 and March 1907 San Francisco built more than 5,610 cottages designed by the Army Corps of Engineers. The cottages ranged in size from 140 square feet (13 sq. m) to 400

1911
Triangle Shirtwaist Company Fire
New York, NY, USA
A blaze in a garment factory claims the lives of 146 workers, most of them women. Public outcry leads to the creation of fire safety codes.



At 5:18 in the morning on April 18, 1906, the earth heaved beneath San Francisco, California.

The earthquake lasted for less than a minute, shearing facades off buildings, ripping houses from their foundations, and opening a rift in the ground 270 miles (435 km) long and up to 21 feet (6.4 m) deep. "It was as if the earth was slipping gently from under our feet," wrote one survivor. "Ahead of me a great cornice crushed a man as if he were a maggot."⁶

But if damage from the earthquake was extensive, the fires that followed were catastrophic. With its rows of closely spaced wooden Victorian homes and unreinforced brick buildings, San Francisco at the turn of the century was a tinderbox awaiting a match. The fires raged for three days, charring more than 500 blocks—nearly a quarter of the city. By the time rescuers were able to sift through the cinders, more than a quarter of a million people were left homeless.⁷ Although the official death count totaled 700, it is now estimated that the earthquake and fires claimed between 1,500 and 3,000 lives.⁸

San Francisco at the turn of the century was in every sense a modern city: it had telegraph lines and cable cars, a mix of ethnic groups, and a tremendous disparity in wealth. The earthquake marked one of the first major disasters of the industrialized age, and many of the housing strategies employed by nascent relief agencies and the Army Corps of Engineers would later be adopted by today's relief and development agencies—strategies such as micro-credit, appropriate technology, and sweat equity. Yet perhaps the most intriguing outcome of the relief effort was the innovative marriage of policy and design that led to the construction of thousands of small wooden cottages that found their way into nearly every pocket of the city.

1905
1906
San Francisco Earthquake and Fires
San Francisco, Calif., USA

1905
1906
San Francisco Earthquake and Fires
San Francisco, Calif., USA

1905
1906
San Francisco Earthquake and Fires
San Francisco, Calif., USA

100 Years of

Humanitarian Design

Kate Stohr

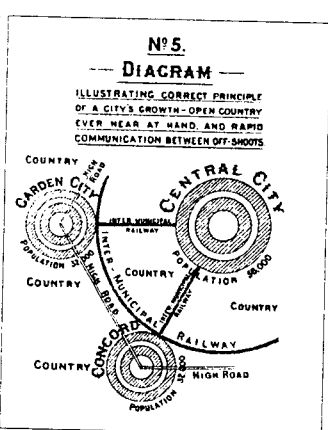
square feet (37 sq. m) and cost between \$100 to \$741 to put up. Constructed by union carpenters and painted "Parkbench Green," the cottages consisted of only two or three rooms and were as easy to relocate as they were to build. Families rented the small cottages for \$2 a month, which went toward the full purchase price of \$50. To free the city's public parks, occupants who could purchase or lease a lot were granted ownership of the cottage and allowed to move it from the park at their own expense. Failure to move the cottages out of the camps by August 1907, a year and a half after the disaster, resulted in forfeiture of ownership.⁶

In this way the cottages provided not only decent temporary shelter but also a path to homeownership for hundreds of San Francisco's low-wage-earning families who might otherwise have never had the means to purchase a home. By the time the last camp closed in 1909, new homeowners had relocated more than 5,343 cottages.⁷ Some of them are still in use today.

Until recently, the great earthquake of 1906 was considered the biggest natural disaster in American history. In its aftermath San Francisco implemented safer building codes and designed a more reliable water-supply system.⁸ In addition, researchers conducted a thorough survey of the reconstruction effort. The *San Francisco Relief Survey* remains one of best-documented case studies of postdisaster shelter efforts to date. But if the earthquake offered lessons to future relief experts, they were lessons that would have to be relearned and rediscovered.

"Housing in the twentieth century has been one continuing emergency," wrote Charles Abrams, a prominent advocate for housing reform, in 1946. Today these words seem prophetic. For more than a 100 years housing has been gripped by a cycle of war, natural disaster, and poverty. Slums, whether cleared by earthquakes and floods or urban planners with bulldozers, disappear only to regenerate and grow larger. Refugees threatened by ever-more deadly conflicts flee across borders seeking shelter in neighboring territories. And, whether in countries rich or poor, nature has proved that no feat of engineering can completely shield a city from the rumblings of the earth or the rising of its waters.

For decades architects have been called upon to provide solutions to the world's shelter crises. However, as designers embraced the



Ebenezer Howard's Three Magnets and No. 5 diagrams illustrate his concept of a planned community that would offer the best of both town and country.

idealism of the machine age, the increasingly technology-driven, often utopian ideas they proposed would carry little resonance for aid workers and others wrestling with the day-to-day realities of providing a roof, clean water, and sanitation to families in need. Over time, the worlds of relief and development became divorced from the worlds of architecture and design. What architects considered a design challenge, aid workers considered an issue of planning and policy.

This disconnect would eventually lead to a crisis of faith: What role should design play in providing basic shelter? How could architects best address the needs of the displaced and disenfranchised? And, at the heart of these questions: Should design be considered a luxury or a necessity? This issue would plague not just architects but also planners, policymakers, and aid organizations struggling to balance the logistics of providing shelter with the human longing for a place to call home.

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Le Corbusier, *Vers une Architectur*

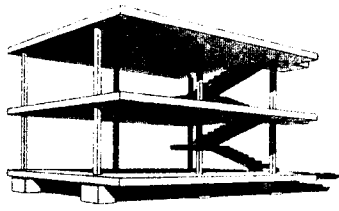
Utopian Urbanism

The introduction of new building co profound changes that would affect start of the twentieth century. The c design can be traced at least as far of the late 1800s and early 1900s, w attention to the housing conditions

By the nineteenth century increa: by the Industrial Revolution had led working-class neighborhoods of ma Thomas Annan in Glasgow and Jaco to document the "insalubrious" livin Tenant associations formed, and wo shape. Many of these housing projec Guise, France, a "working-class pati Jean-Baptiste-André Godin, were ur behalf of their workers.⁹ Health, wel inextricably linked to housing. The r sanitary living conditions led to the ii other design improvements for tenei

Reformers also adopted the conce antidote to the social ills of the day. I published *To-morrow: A Peaceful Patl* a vision of planned communities free where clean air, water, and opportu

1914-15
Maison Dom-ino
Paris, France
Le Corbusier



1914-18
World War I

1917
Demountable Wooden House
France (various locations)
American Friends Service Committee
Built by volunteers to house World War I refugees, each "demountable" wooden house consisted of two rooms.
American Friends Service Committee



1919
League of Nations established
Versailles, France
Established after the end of World War I, the League of Nations' goal was to settle disputes between nations and foster peace. After World War II it would be replaced by the United Nations.

a central city surrounded by green space was linked by transportation to satellite towns. As illustrated by his famous Three Magnets and No. 5 diagrams, these satellite cities promised the best of both town and country (beauty, fresh air, opportunity, amusement, high wages) and combined with modernism would have a profound influence over the construction of low-income housing projects for decades to come.

Modernism

By 1913 the Industrial Revolution had reached a fever pitch. Reinforced concrete, first developed in the 1860s, was by now an accepted building material. Steel-frame construction, water pumps, and the invention of the elevator allowed increasingly tall buildings to soar to unprecedented heights. The devastation of World War I had led to acute housing shortages in much of Europe. At the same time, workers continued to migrate to urban areas, crowding into sprawling slums on the edges of cities such as Paris. This surge in demand called for new thinking about housing design as well as building techniques that not only met the needs of the new machine age but also co-opted its methods.

Today modernism is associated with a minimalist aesthetic of steel and glass, but it began as an attempt by architects and designers to harness the potential of industry to produce low-cost buildings, in particular, housing. The assembly line was revolutionizing the production of everything from toothbrushes to brassieres. Why not housing?

Le Corbusier expressed the new thinking best when he described the house as "a machine for living in." In 1914–15 the Swiss-born architect developed a basic, universal housing unit called the Maison Dom-ino. The unit consisted of little more than floor slabs of reinforced concrete supported by corner columns and lifted off the ground by pilots, or piers. It could be repeated endlessly or stacked upon itself. Because the walls were not load bearing, the interior spaces could be configured in different ways to meet the varying needs of occupants. "Prefabricated walls and uniform door and window heights simplified construction further. Le Corbusier saw his system as a solution for the rapid reconstruction of regions such as Flanders, which had been heavily damaged during World War I. He

"We are dealing with an urgent problem of our epoch, nay more, with the problem of our epoch. The balance of society comes down to a question of building. We conclude with these justifiable alternatives: Architecture or Revolution. Revolution can be avoided."

Le Corbusier, *Vers une Architecture*, 1923

Utopian Urbanism

The introduction of new building codes was just one of a series of profound changes that would affect the practice of architecture at the start of the twentieth century. The origins of humanitarian, or social, design can be traced at least as far back as the tenant movements of the late 1800s and early 1900s, when social reformers turned their attention to the housing conditions of the poor.

By the nineteenth century increased urbanization brought on working-class neighborhoods of many cities. Photographers such as Thomas Annan in Glasgow and Jacob Riis in New York used their art to document the "insalubrious" living conditions of the "other half." Tenant associations formed, and worker housing initiatives took shape. Many of these housing projects, such as the Familistère in

Jean-Baptiste-André Godin, were undertaken by companies on behalf of their workers. "Health, welfare, and productivity became inextricably linked to housing. The reform movement's call for sanitary living conditions led to the introduction of light wells and other design improvements for tenement housing as an antidote to the social ills of the day. In 1898 Ebenezer Howard published *To-morrow: A Peaceful Path to Real Reform*. Howard offered a vision of planned communities free of "slums and gin palaces," where clean air, water, and opportunity would abound. In his plan,

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ology-driven, day realities of cities in need. Architects became divorced from their clients. What role could architects play? And, considered a luxury rchitects but also uggling to balance onging for a place



1919 League of Nations established

Versailles, France
Established after the end of World War I, the League of Nations goal was to settle disputes between nations and foster peace. After World War II it would be replaced by the United Nations.

1920s

1923

Kanto Earthquake and Fire

200,000 people die, 370,000 buildings are destroyed. Frank Lloyd Wright's "earthquake-proof" Imperial Hotel (1916–22) is one of the few structures left standing.

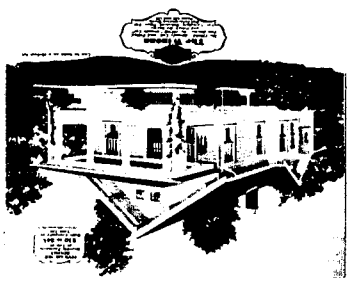
1927–32

"The Winona"

Sears Modern Homes
Akron, Oh., USA
Illinois to the Gulf of Mexico.

1927 Mississippi River Flood

Lower Mississippi region, USA
The lower Mississippi River floods, inundating 27,000 square miles and shattering levee systems from



Sears, Roebuck and Co.
Akron, Oh., USA

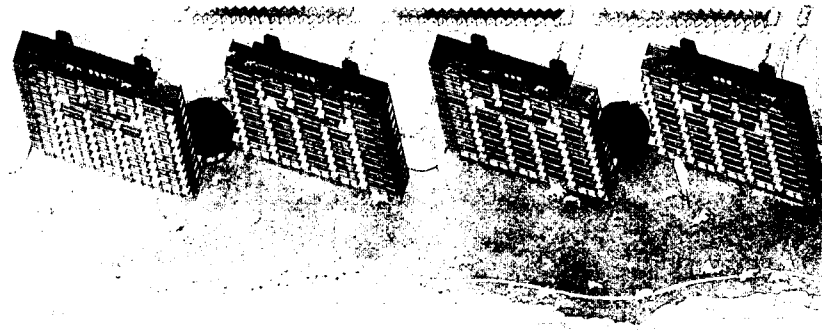
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“Architecture is a process of giving form and pattern to the social life of the community. Architecture is not an individual act performed by an artist-architect and charged with his emotions. Building is a collective action.”

Hannes Meyer, director of Bauhaus, 1928 to 1930

built two prototypes based on his ideas for exhibition: The *immeubles villas* (1922) and the *Maison Citroën* (1922), a play on the automobile name Citroën. Throughout the '20s Le Corbusier expounded on his ideas for a new industrialized architecture in a series of manifestos and urban plans.

Another early pioneer of prefabrication and component building systems was the German architect Walter Gropius. Gropius, who founded the Bauhaus and served as its director from 1919 to 1928, personified the architect as public servant and teacher. Throughout the '20s and '30s Gropius experimented with prefabricated wall panels and eventually whole structures. During his tenure and that of his successors, the Bauhaus became a nexus for socially conscious design.

Gropius, along with Marcel Breuer, is also credited with designing the first slab apartment block. This new building type, which would become the model for many future affordable-housing projects, was conceived to overcome the cramped, lightless tenement housing that had resulted from rampant land speculation at the turn of the century. The basic plan consisted of parallel rows of four- to 11-story apartment blocks. Each slab was only one apartment deep with windows front and back. The slabs were sited on a “superblock” at an angle to the street with communal green spaces between them to allow maximum sunlight into each apartment.¹²



Walter Gropius, slab apartment blocks on the Wannsee Shore, Berlin, 1931

Others would also experiment with standardized building components, modular systems, and prefabrication, including the French industrial designer Jean Prouvé and Frank Lloyd Wright, but perhaps none more passionately than the American inventor R. Buckminster Fuller.

Fuller arrived on what he termed “spaceship earth” in 1895. Like Gropius and Le Corbusier, he believed that mass-manufactured dwellings represented the future of housing. His most lasting contribution, however, was his fervent belief in the power of design to improve the human condition. In a sense Fuller, who was known for his eccentric use of language and his marathon lectures (the longest lasted 42 hours and only recently has been fully transcribed), was the first evangelist of humanitarian design.

In 1927, after the death of his elder daughter and the collapse of his first business, he found himself at the edge of Lake Michigan contemplating suicide. He was a failure, “a throw-away.” What brought him from the brink, he later recounted, was the simple idea that his experience might ultimately be somehow useful to his fellow human beings. Rather than taking his own life, he decided to embark on a lifelong experiment, using himself as his own best research subject. He became “Guinea Pig B” (for Bucky), the world’s first test pilot of a “design-science revolution,” the sole purpose of which was to improve “human livingry,” and he started with the house.

Conventional “handcrafted” home advances in 5,000 years,” Fuller argued required much maintenance, and dic materials. Most conventional buildin strength. But what if a building could mast, allowing for greater strength a

Fuller’s thinking led to the design a small-scale model of which was fir Field’s department store in Chicago i embraced the principle of tension an It was spherical, to make efficient us maintenance-free aluminum. It was i could be lit by a single light source th dimmers. All the mechanicals, wiring the walls and mast to allow for easy r also one of the first examples of self- as Fuller put it) green design. Wind tu roof collected rainwater. Water-savin (including people), and Fuller’s “pack and recovered methane gas.¹³

While the Dymaxion House was un (it would be two decades before Fuller a full-scale prototype), the concept of than compression would become cent would eventually lead to his most last of humanitarian design: the geodesic of tensegrity became a staple of tent c emergency shelter, that endures to th

Like the Dymaxion House, few of th built” housing achieved widespread cc example, Le Corbusier’s low-cost hou near Bordeaux, France, went unoccup built. However, this concept of mass-p a number of lasting implications for lo a move away from the craft of building building. It took design out of the realn the hands of an educated few. Perhaps the need for a dialogue between the ar

1929

Dymaxion House
 Chicago, Ill., USA
 R. Buckminster Fuller

1930s

1930

Housing Act of 1930
 England

1930-39

Drought and Dust Storms
 Midwestern and southern plains, USA

1931

Prefabricated houses built for the Hirsch Copper and Brass Works
 Finow, Germany
 Walter Gropius

1931

Slab apartment blocks on the Wannsee shore
 Berlin, Germany
 Walter Gropius



1931

Flood
 China
 The Yellow River, the second largest river in China, floods. Death toll estimates range from 850,000 to four million. The flooding is followed by famine and outbreaks of disease.

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